

SEQUENCE LISTING

<110> Walke, D. Wade
Donoho, Gregory
Scoville, John
Hilbun, Erin,
Zambrowicz, Brian
Turner, C. Alexander Jr.

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Ser Val Pro Ile Pro Ile Pro Ala Asp Thr Arg Asp Asn Glu Val Asn
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Gln	Lys	Leu	Arg	Ser	Arg	Glu	Val	Pro	Glu	Gly	Thr	Arg	Val	Gln	Leu
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Asp	Cys	Ile	Val	Val	Gly	Ile	Pro	Pro	Pro	Gln	Val	Arg	Trp	Tyr	Cys
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Glu	Gly	Lys	Glu	Leu	Glu	Asn	Ser	Pro	Asp	Ile	His	Ile	Val	Gln	Ala
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Gly	Asn	Leu	His	Ser	Leu	Thr	Ile	Ala	Glu	Ala	Phe	Glu	Glu	Asp	Thr
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Gly	Arg	Tyr	Ser	Cys	Phe	Ala	Ser	Asn	Ile	Tyr	Gly	Thr	Asp	Ser	Thr
			340					345					350		
Ser	Ala	Glu	Ile	Tyr	Ile	Glu	Gly	Val	Ser	Ser	Ser	Asp	Ser	Glu	Gly
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Asp	Pro	Asn	Lys	Glu	Glu	Met	Asn	Arg	Val	Arg	Ala	Pro	Pro	Ile	Thr
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<211> 401

<212> PRT

<213> homo sapiens

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Ser	Arg	Ala	Glu	Pro	Ser	Ser	Asn	Pro	Cys	His	Phe	Gly	Ser	Pro	Ser
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Gly	Ala	Ala	Glu	Gly	Gly	Gly	Gly	Gln	Asp	Asp	Leu	Pro	Asp	Leu	Ser
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Phe	Glu	Pro	Asn	Phe	Cys	Gln	Asp	Asn	Pro	Arg	Ser	Pro	Thr	Ser	Ser
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Lys	Glu	Ser	Pro	Gln	Glu	Ala	Lys	Arg	Pro	Gln	Tyr	Cys	Ser	Glu	Thr
	130					135					140				
Gln	Ser	Lys	Lys	Val	Phe	Leu	Asn	Lys	Ala	Ala	Asp	Phe	Ile	Glu	Glu
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Gln	Glu	Asn	Ser	Ser	Ser	Phe	Ser	Asp	Leu	Ser	Glu	Arg	Arg	Glu	Arg
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	245	250
Ser Ser Leu Tyr Tyr Glu Glu Pro Leu Gly Gln	Pro Pro Arg Phe Thr	255
	260	265
Gln Lys Leu Arg Ser Arg Glu Val Pro Glu Gly	Thr Arg Val Gln Leu	270
	275	280
Asp Cys Ile Val Val Gly Ile Pro Pro Pro Gln	Val Arg Trp Tyr Cys	285
	290	295
Glu Gly Lys Glu Leu Glu Asn Ser Pro Asp Ile	His Ile Val Gln Ala	300
305	310	315
Gly Asn Leu His Ser Leu Thr Ile Ala Glu Ala	Phe Glu Glu Asp Thr	320
	325	330
Gly Arg Tyr Ser Cys Phe Ala Ser Asn Ile Tyr	Gly Thr Asp Ser Thr	335
	340	345
Ser Ala Glu Ile Tyr Ile Glu Gly Val Ser Ser	Ser Asp Ser Glu Gly	350
	355	360
Asp Pro Asn Lys Glu Glu Met Asn Arg Val Arg	Ala Pro Pro Ile Thr	365
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			20					25				30			
Ser	Arg	Ala	Glu	Pro	Ser	Ser	Asn	Pro	Cys	His	Phe	Gly	Ser	Pro	Ser
		35					40					45			
Gly	Ala	Ala	Glu	Gly	Gly	Gly	Gly	Gln	Asp	Asp	Leu	Pro	Asp	Leu	Ser
	50					55					60				
Ala	Phe	Leu	Ser	Gln	Glu	Glu	Leu	Asp	Glu	Ser	Val	Asn	Leu	Ala	Arg
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Leu	Ala	Ile	Asn	Tyr	Asp	Pro	Leu	Glu	Lys	Ala	Asp	Glu	Thr	Gln	Ala
			85						90					95	
Arg	Lys	Arg	Leu	Ser	Pro	Asp	Gln	Met	Lys	His	Ser	Pro	Asn	Leu	Ser
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Phe	Glu	Pro	Asn	Phe	Cys	Gln	Asp	Asn	Pro	Arg	Ser	Pro	Thr	Ser	Ser
		115					120					125			
Lys	Glu	Ser	Pro	Gln	Glu	Ala	Lys	Arg	Pro	Gln	Tyr	Cys	Ser	Glu	Thr
	130					135					140				
Gln	Ser	Lys	Lys	Val	Phe	Leu	Asn	Lys	Ala	Ala	Asp	Phe	Ile	Glu	Glu
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Gln	Glu	Asn	Ser	Ser	Ser	Phe	Ser	Asp	Leu	Ser	Glu	Arg	Arg	Glu	Arg
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Ser	Ser	Val	Pro	Ile	Pro	Ile	Pro	Ala	Asp	Thr	Arg	Asp	Asn	Glu	Val
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		355					360					365			
Asp	Pro	Asn	Lys	Glu	Glu	Met	Asn	Arg	Ile	Gln	Lys	Pro	Asn	Glu	Val
	370					375					380				
Ser	Ser	Pro	Pro	Thr	Thr	Ser	Ala	Val	Ile	Pro	Pro	Ala	Val	Pro	Gln
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Ile Cys Thr	Leu Val Ile Ala Glu	Val Phe Ala Glu Asp Ser	Gly Cys		
	500	505	510		
Phe Thr Cys	Thr Ala Ser Asn Lys	Tyr Gly Thr Val Ser Ser	Ile Ala		
	515	520	525		
Gln Leu His	Val Arg Gly Asn Glu Asp	Leu Ser Asn Asn Gly Ser	Leu		
	530	535	540		
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 Gly Ala Ala Glu Gly Gly Gly Gly Gln Asp Asp Leu Pro Asp Leu Ser
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 65 70 75 80
 Leu Ala Ile Asn Tyr Asp Pro Leu Glu Lys Ala Asp Glu Thr Gln Ala
 85 90 95
 Arg Lys Arg Leu Ser Pro Asp Gln Met Lys His Ser Pro Asn Leu Ser
 100 105 110
 Phe Glu Pro Asn Phe Cys Gln Asp Asn Pro Arg Ser Pro Thr Ser Ser
 115 120 125
 Lys Glu Ser Pro Gln Glu Ala Lys Arg Pro Gln Tyr Cys Ser Glu Thr
 130 135 140
 Gln Ser Lys Lys Val Phe Leu Asn Lys Ala Ala Asp Phe Ile Glu Glu
 145 150 155 160
 Leu Ser Ser Leu Phe Lys Ser His Ser Ser Lys Arg Ile Arg Pro Arg
 165 170 175
 Ala Cys Lys Asn His Lys Ser Lys Leu Glu Ser Gln Asn Lys Val Met
 180 185 190
 Gln Glu Asn Ser Ser Ser Phe Ser Asp Leu Ser Glu Arg Arg Glu Arg
 195 200 205
 Ser Ser Val Pro Ile Pro Ile Pro Ala Asp Thr Arg Asp Asn Glu Val
 210 215 220
 Asn His Ala Leu Glu Gln Gln Glu Ala Lys Arg Arg Glu Ala Glu Gln
 225 230 235 240
 Ala Ala Ser Glu Ala Ala Gly Gly Asp Thr Thr Pro Gly Ser Ser Pro
 245 250 255
 Ser Ser Leu Tyr Tyr Glu Glu Pro Leu Gly Gln Pro Pro Arg Phe Thr
 260 265 270
 Gln Lys Leu Arg Ser Arg Glu Val Pro Glu Gly Thr Arg Val Gln Leu
 275 280 285
 Asp Cys Ile Val Val Gly Ile Pro Pro Pro Gln Val Arg Trp Tyr Cys
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 Glu Gly Lys Glu Leu Glu Asn Ser Pro Asp Ile His Ile Val Gln Ala
 305 310 315 320
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 Gly Arg Tyr Ser Cys Phe Ala Ser Asn Ile Tyr Gly Thr Asp Ser Thr
 340 345 350
 Ser Ala Glu Ile Tyr Ile Glu Gly Val Ser Ser Ser Asp Ser Glu Gly

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Asp Pro Asn Lys Glu Glu Met Asn Arg Ile Gln Lys Pro Asn Glu Val		
370	375	380
Ser Ser Pro Pro Thr Thr Ser Ala Val Ile Pro Pro Ala Val Pro Gln		
385	390	395
Ala Gln His Leu Val Ala Gln Pro Arg Val Ala Thr Ile Gln Gln Cys		400
405	410	415
Gln Ser Pro Thr Asn Tyr Leu Gln Gly Leu Asp Gly Lys Pro Ile Ile		
420	425	430
Ala Ala Pro Val Phe Thr Lys Met Leu Gln Asn Leu Ser Ala Ser Glu		
435	440	445
Gly Gln Leu Val Val Phe Glu Cys Arg Val Lys Gly Ala Pro Ser Pro		
450	455	460
Lys Val Glu Trp Tyr Arg Glu Gly Thr Leu Ile Glu Asp Ser Pro Asp		
465	470	475
Phe Arg Ile Leu Gln Lys Lys Pro Arg Ser Met Ala Glu Pro Glu Glu		
485	490	495
Ile Cys Thr Leu Val Ile Ala Glu Val Phe Ala Glu Asp Ser Gly Cys		
500	505	510
Phe Thr Cys Thr Ala Ser Asn Lys Tyr Gly Thr Val Ser Ser Ile Ala		
515	520	525
Gln Leu His Val Arg Gly Asn Glu Asp Leu Ser Asn Asn Gly Ser Leu		
530	535	540
His Ser Ala Asn Ser Thr Thr Asn Leu Ala Ala Ile Glu Pro Gln Pro		
545	550	555
Ser Pro Pro His Ser Glu Pro Pro Ser Val Glu Gln Pro Pro Lys Pro		
565	570	575
Lys Leu Glu Gly Val Leu Val Asn His Asn Glu Pro Arg Ser Ser Ser		
580	585	590
Arg Ile Gly Leu Arg Val His Phe Asn Leu Pro Glu Asp Asp Lys Gly		
595	600	605
Ser Glu Ala Ser Ser Glu Ala Gly Val Val Thr Thr Arg Gln Thr Arg		
610	615	620
Pro Asp Ser Xaa Gln Glu Arg Phe Asn Gly Gln Ala Thr Lys Thr Pro		
625	630	635
Glu Pro Ser Phe Pro Val Lys Glu Pro Pro Pro Val Leu Ala Lys Pro		
645	650	655
Lys Leu Asp Ser Thr Gln Leu Gln Gln Leu His Asn Gln Val Leu Leu		
660	665	670
Glu Gln His Gln Leu Gln Asn Pro Pro Pro Ser Ser Pro Lys Glu Phe		
675	680	685
Pro Phe Xaa Met Thr Val Leu Asn Ser Asn Ala Pro Pro Ala Val Thr		
690	695	700
Thr Ser Xaa Lys Gln Val Lys Ala Pro Ser Ser Gln Thr Phe Ser Leu		
705	710	715
Ala Arg Pro Lys Tyr Phe Phe Pro Ser Thr Asn Thr Thr Ala Ala Thr		
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Val Ala Pro Ser Ser Ser Pro Val Phe Thr Leu Ser Ser Ile Pro Pro		
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Gln Thr		

<210> 15

<211> 3138

<212> DNA

<213> homo sapiens

<400> 15

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cacatcgctc	aggcaggaaa	tctgcaactc	ctgaccattg	cggaagcctt	tgaagaggac	180
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atztatatag	aaggggtttc	ttcttctgac	tcagaaggcg	accctaacaa	ggaagagatg	300
aatcgaatcc	agaagccaaa	tgaggtgtca	tctcctccca	ctacctctgc	agtcattcct	360
ccagcagtac	cccaagccca	gcatttgggtg	gcccacctc	gtgtggcaac	catccagcag	420
tgtcagagcc	ccaccaatta	cttgcaaggga	ttggatggaa	aacctatcat	tgcagctcct	480
gtgttttaca	agatgctaca	aaatttgtca	gcttctgagg	gtcagctggg	tgtctttgaa	540
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gcaacaaaaa	ccccagagcc	ttctttcccc	gtgaaagagc	ccctccagt	tctggccaaa	1140
cccaaaacttg	attccactca	gttacaacag	cttcataacc	aagtcttact	ggaacaacac	1200
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<210> 16

<211> 1045
 <212> PRT
 <213> homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(1045)
 <223> Xaa = Any Amino Acid

<400> 16

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			20					25					30		
Glu	Leu	Glu	Asn	Ser	Pro	Asp	Ile	His	Ile	Val	Gln	Ala	Gly	Asn	Leu
			35				40					45			
His	Ser	Leu	Thr	Ile	Ala	Glu	Ala	Phe	Glu	Glu	Asp	Thr	Gly	Arg	Tyr
			50			55					60				
Ser	Cys	Phe	Ala	Ser	Asn	Ile	Tyr	Gly	Thr	Asp	Ser	Thr	Ser	Ala	Glu
65					70					75				80	
Ile	Tyr	Ile	Glu	Gly	Val	Ser	Ser	Ser	Asp	Ser	Glu	Gly	Asp	Pro	Asn
				85					90					95	
Lys	Glu	Glu	Met	Asn	Arg	Ile	Gln	Lys	Pro	Asn	Glu	Val	Ser	Ser	Pro
			100					105					110		
Pro	Thr	Thr	Ser	Ala	Val	Ile	Pro	Pro	Ala	Val	Pro	Gln	Ala	Gln	His
			115				120					125			
Leu	Val	Ala	Gln	Pro	Arg	Val	Ala	Thr	Ile	Gln	Gln	Cys	Gln	Ser	Pro
			130				135				140				
Thr	Asn	Tyr	Leu	Gln	Gly	Leu	Asp	Gly	Lys	Pro	Ile	Ile	Ala	Ala	Pro
145					150					155				160	
Val	Phe	Thr	Lys	Met	Leu	Gln	Asn	Leu	Ser	Ala	Ser	Glu	Gly	Gln	Leu
				165					170					175	
Val	Val	Phe	Glu	Cys	Arg	Val	Lys	Gly	Ala	Pro	Ser	Pro	Lys	Val	Glu
			180					185					190		
Trp	Tyr	Arg	Glu	Gly	Thr	Leu	Ile	Glu	Asp	Ser	Pro	Asp	Phe	Arg	Ile
			195				200					205			
Leu	Gln	Lys	Lys	Pro	Arg	Ser	Met	Ala	Glu	Pro	Glu	Glu	Ile	Cys	Thr
			210			215					220				
Leu	Val	Ile	Ala	Glu	Val	Phe	Ala	Glu	Asp	Ser	Gly	Cys	Phe	Thr	Cys
225					230					235				240	
Thr	Ala	Ser	Asn	Lys	Tyr	Gly	Thr	Val	Ser	Ser	Ile	Ala	Gln	Leu	His
				245					250				255		
Val	Arg	Gly	Asn	Glu	Asp	Leu	Ser	Asn	Asn	Gly	Ser	Leu	His	Ser	Ala
			260					265					270		
Asn	Ser	Thr	Thr	Asn	Leu	Ala	Ala	Ile	Glu	Pro	Gln	Pro	Ser	Pro	Pro
			275				280					285			
His	Ser	Glu	Pro	Pro	Ser	Val	Glu	Gln	Pro	Pro	Lys	Pro	Lys	Leu	Glu
			290			295					300				
Gly	Val	Leu	Val	Asn	His	Asn	Glu	Pro	Arg	Ser	Ser	Ser	Arg	Ile	Gly
305					310					315				320	
Leu	Arg	Val	His	Phe	Asn	Leu	Pro	Glu	Asp	Asp	Lys	Gly	Ser	Glu	Ala
				325					330					335	
Ser	Ser	Glu	Ala	Gly	Val	Val	Thr	Thr	Arg	Gln	Thr	Arg	Pro	Asp	Ser
			340					345					350		
Xaa	Gln	Glu	Arg	Phe	Asn	Gly	Gln	Ala	Thr	Lys	Thr	Pro	Glu	Pro	Ser
			355				360					365			

Phe	Pro	Val	Lys	Glu	Pro	Pro	Pro	Val	Leu	Ala	Lys	Pro	Lys	Leu	Asp	370	375	380
Ser	Thr	Gln	Leu	Gln	Gln	Leu	His	Asn	Gln	Val	Leu	Leu	Glu	Gln	His	385	390	395
Gln	Leu	Gln	Asn	Pro	Pro	Pro	Ser	Ser	Pro	Lys	Glu	Phe	Pro	Phe	Xaa	405	410	415
Met	Thr	Val	Leu	Asn	Ser	Asn	Ala	Pro	Pro	Ala	Val	Thr	Thr	Ser	Xaa	420	425	430
Lys	Gln	Val	Lys	Ala	Pro	Ser	Ser	Gln	Thr	Phe	Ser	Leu	Ala	Arg	Pro	435	440	445
Lys	Tyr	Phe	Phe	Pro	Ser	Thr	Asn	Thr	Thr	Ala	Ala	Thr	Val	Ala	Pro	450	455	460
Ser	Ser	Ser	Pro	Val	Phe	Thr	Leu	Ser	Ser	Thr	Pro	Gln	Thr	Ile	Gln	465	470	475
Arg	Thr	Val	Ser	Lys	Glu	Ser	Leu	Leu	Val	Ser	His	Pro	Ser	Val	Gln	485	490	495
Thr	Lys	Ser	Pro	Gly	Gly	Leu	Ser	Ile	Gln	Asn	Glu	Pro	Leu	Pro	Pro	500	505	510
Gly	Pro	Thr	Glu	Pro	Thr	Pro	Pro	Pro	Phe	Thr	Phe	Ser	Ile	Pro	Ser	515	520	525
Gly	Asn	Gln	Phe	Gln	Pro	Arg	Cys	Val	Ser	Pro	Ile	Pro	Val	Ser	Pro	530	535	540
Thr	Ser	Arg	Ile	Gln	Asn	Pro	Val	Ala	Phe	Leu	Ser	Ser	Val	Leu	Pro	545	550	555
Ser	Leu	Pro	Ala	Ile	Pro	Pro	Thr	Asn	Ala	Met	Xaa	Leu	Pro	Arg	Ser	565	570	575
Ala	Pro	Ser	Met	Pro	Ser	Gln	Gly	Leu	Ala	Lys	Lys	Asn	Thr	Lys	Ser	580	585	590
Pro	Gln	Pro	Val	Asn	Asp	Asp	Asn	Ile	Arg	Glu	Thr	Lys	Asn	Ala	Val	595	600	605
Ile	Arg	Asp	Leu	Gly	Lys	Lys	Ile	Thr	Phe	Ser	Asp	Val	Arg	Pro	Asn	610	615	620
Gln	Gln	Glu	Tyr	Lys	Ile	Ser	Ser	Phe	Glu	Gln	Arg	Leu	Met	Asn	Glu	625	630	635
Ile	Glu	Phe	Arg	Leu	Glu	Arg	Thr	Pro	Val	Asp	Glu	Ser	Asp	Asp	Glu	645	650	655
Ile	Gln	His	Asp	Glu	Ile	Pro	Thr	Gly	Lys	Cys	Ile	Ala	Pro	Ile	Phe	660	665	670
Asp	Lys	Arg	Leu	Lys	His	Phe	Arg	Val	Thr	Glu	Gly	Ser	Pro	Val	Thr	675	680	685
Phe	Thr	Cys	Lys	Ile	Val	Gly	Ile	Pro	Val	Pro	Lys	Val	Tyr	Trp	Phe	690	695	700
Lys	Asp	Gly	Lys	Gln	Ile	Ser	Lys	Arg	Asn	Glu	His	Cys	Lys	Met	Arg	705	710	715
Arg	Glu	Gly	Asp	Gly	Thr	Cys	Ser	Leu	His	Ile	Glu	Ser	Thr	Thr	Ser	725	730	735
Asp	Asp	Asp	Gly	Asn	Tyr	Thr	Ile	Met	Ala	Ala	Asn	Pro	Gln	Gly	Arg	740	745	750
Ile	Ser	Cys	Ser	Gly	His	Leu	Met	Val	Gln	Ser	Leu	Pro	Ile	Arg	Ser	755	760	765
Arg	Leu	Thr	Ser	Ala	Gly	Gln	Ser	His	Arg	Gly	Arg	Ser	Arg	Val	Gln	770	775	780
Glu	Arg	Asp	Lys	Glu	Pro	Leu	Gln	Glu	Arg	Phe	Phe	Arg	Pro	His	Phe	785	790	795
Leu	Gln	Ala	Pro	Gly	Asp	Met	Val	Ala	His	Glu	Gly	Arg	Leu	Cys	Arg	805	810	815

Leu Asp Cys Lys Val Ser Gly Leu Pro Pro Pro Glu Leu Thr Trp Leu
 820 825 830
 Leu Asn Gly Gln Pro Val Leu Pro Asp Ala Ser His Lys Met Leu Val
 835 840 845
 Arg Glu Thr Gly Val His Ser Leu Leu Ile Asp Pro Leu Thr Gln Arg
 850 855 860
 Asp Ala Gly Thr Tyr Lys Cys Ile Ala Thr Asn Lys Thr Gly Gln Asn
 865 870 875 880
 Ser Phe Ser Leu Glu Leu Ser Val Val Ala Lys Glu Val Lys Lys Ala
 885 890 895
 Pro Val Ile Leu Glu Lys Leu Gln Asn Cys Gly Val Pro Glu Gly His
 900 905 910
 Pro Val Arg Leu Glu Cys Arg Val Ile Gly Met Pro Pro Pro Val Phe
 915 920 925
 Tyr Trp Lys Lys Asp Asn Glu Thr Ile Pro Cys Thr Arg Glu Arg Ile
 930 935 940
 Ser Met His Gln Asp Thr Thr Gly Tyr Ala Cys Leu Leu Ile Gln Pro
 945 950 955 960
 Ala Lys Lys Ser Asp Ala Gly Trp Tyr Thr Leu Ser Ala Lys Asn Glu
 965 970 975
 Ala Gly Ile Val Ser Cys Thr Ala Arg Leu Asp Ile Tyr Ala Gln Trp
 980 985 990
 His His Gln Ile Pro Pro Pro Met Ser Val Arg Pro Ser Gly Ser Arg
 995 1000 1005
 Tyr Gly Ser Leu Thr Ser Lys Gly Leu Asp Ile Phe Ser Ala Phe Ser
 1010 1015 1020
 Ser Met Glu Ser Thr Met Val Tyr Ser Cys Ser Ser Arg Ser Val Val
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 Glu Ser Asp Glu Leu
 1045

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 <212> DNA
 <213> homo sapiens

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 cacatcgctc aggaggaaa tctgcactca ctgaccattg cggaagcctt tgaagaggac 180
 acaggacgct attcctgctt tgcttctaac atctatggga cagattcgac ttctgctgag 240
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 aatcggttaa 309

<210> 18
 <211> 102
 <212> PRT
 <213> homo sapiens

<400> 18
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 Ser Leu Ala Phe Leu Trp Ile Ile Pro Met Trp Tyr Cys Glu Gly Lys
 20 25 30
 Glu Leu Glu Asn Ser Pro Asp Ile His Ile Val Gln Ala Gly Asn Leu
 35 40 45

His Ser Leu Thr Ile Ala Glu Ala Phe Glu Glu Asp Thr Gly Arg Tyr
50 55 60
Ser Cys Phe Ala Ser Asn Ile Tyr Gly Thr Asp Ser Thr Ser Ala Glu
65 70 75 80
Ile Tyr Ile Glu Gly Val Ser Ser Ser Asp Ser Glu Gly Asp Pro Asn
85 90 95
Lys Glu Glu Met Asn Arg
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<210> 19
<211> 435
<212> DNA
<213> homo sapiens

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cacatcgctc aggcaaggaaa tctgcactca ctgaccattg cggaagcctt tgaagaggac 180
acaggacgct attcctgctt tgcttctaac atctatggga cagattcgac ttctgctgag 240
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aatcgtgtca gagccccacc aattacttgc agggattgga tggaaaacct atcattgcag 360
ctcctgtgtt tacaaaagatg ctacaaaatt tgtcagcttc tgagggtcag ctggttgtct 420
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<210> 20
<211> 144
<212> PRT
<213> homo sapiens

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20 25 30
Glu Leu Glu Asn Ser Pro Asp Ile His Ile Val Gln Ala Gly Asn Leu
35 40 45
His Ser Leu Thr Ile Ala Glu Ala Phe Glu Glu Asp Thr Gly Arg Tyr
50 55 60
Ser Cys Phe Ala Ser Asn Ile Tyr Gly Thr Asp Ser Thr Ser Ala Glu
65 70 75 80
Ile Tyr Ile Glu Gly Val Ser Ser Ser Asp Ser Glu Gly Asp Pro Asn
85 90 95
Lys Glu Glu Met Asn Arg Val Arg Ala Pro Pro Ile Thr Cys Arg Asp
100 105 110
Trp Met Glu Asn Leu Ser Leu Gln Leu Leu Cys Leu Gln Arg Cys Tyr
115 120 125
Lys Ile Cys Gln Leu Leu Arg Val Ser Trp Leu Ser Leu Asn Ala Glu
130 135 140

<210> 21
<211> 381
<212> DNA
<213> homo sapiens

<400> 21
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cacatcgtcc aggcaaggaaa tctgcactca ctgaccattg cggaagcctt tgaagaggac 180
acaggacgct attcctgctt tgcttctaac atctatggga cagattcgac ttctgctgag 240
atttatatag aaggggtttc ttcttctgac tcagaaggcg accctaacaa ggaagagatg 300
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<210> 22

<211> 126

<212> PRT

<213> homo sapiens

<400> 22

Met	Leu	Thr	Val	Gln	Val	Lys	Thr	Ser	Ser	Ala	Ile	Glu	Leu	Pro	Asp
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			20					25				30			
Glu	Leu	Glu	Asn	Ser	Pro	Asp	Ile	His	Ile	Val	Gln	Ala	Gly	Asn	Leu
		35				40					45				
His	Ser	Leu	Thr	Ile	Ala	Glu	Ala	Phe	Glu	Glu	Asp	Thr	Gly	Arg	Tyr
	50				55					60					
Ser	Cys	Phe	Ala	Ser	Asn	Ile	Tyr	Gly	Thr	Asp	Ser	Thr	Ser	Ala	Glu
65					70					75				80	
Ile	Tyr	Ile	Glu	Gly	Val	Ser	Ser	Ser	Asp	Ser	Glu	Gly	Asp	Pro	Asn
			85					90					95		
Lys	Glu	Glu	Met	Asn	Arg	Val	Arg	Ala	Pro	Pro	Ile	Thr	Cys	Arg	Asp
			100					105					110		
Trp	Met	Glu	Asn	Leu	Ser	Leu	Gln	Leu	Leu	Cys	Leu	Gln	Arg		
		115					120					125			

<210> 23

<211> 555

<212> DNA

<213> homo sapiens

<400> 23

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cacatcgtcc	aggcaggaaa	tctgcactca	ctgaccattg	cggaagcctt	tgaagaggac	180
acaggacgct	attcctgctt	tgcttctaac	atctatggga	cagattcgac	ttctgctgag	240
atttatatag	aaggggtttc	ttcttctgac	tcagaaggcg	accctaacaa	ggaagagatg	300
aatcgaatcc	agaagccaaa	tgaggtgtca	tctcctccca	ctacctctgc	agtcattcct	360
ccagcagtac	ccaagccca	gcatttggtg	gccaacctc	gtgtggcaac	catccagcag	420
tgctcagagcc	ccaccaatta	cttgcaaggga	ttggatggaa	aacctatcat	tgcagctcct	480
gtgttttaca	aggtaataaa	aatattactt	ctttctgtca	tggcttttaa	gataccacag	540
cacccaaagt	tatag					555

<210> 24

<211> 184

<212> PRT

<213> homo sapiens

<400> 24

Met	Leu	Thr	Val	Gln	Val	Lys	Thr	Ser	Ser	Ala	Ile	Glu	Leu	Pro	Asp
1				5					10					15	
Ser	Leu	Ala	Phe	Leu	Trp	Ile	Ile	Pro	Met	Trp	Tyr	Cys	Glu	Gly	Lys

[illegible][illegible][illegible][illegible][illegible]

His	Ser	Leu	Thr	Ile	Ala	Glu	Ala	Phe	Glu	Glu	Asp	Thr	Gly	Arg	Tyr
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Ser	Cys	Phe	Ala	Ser	Asn	Ile	Tyr	Gly	Thr	Asp	Ser	Thr	Ser	Ala	Glu
65					70					75					80
Ile	Tyr	Ile	Glu	Gly	Val	Ser	Ser	Ser	Asp	Ser	Glu	Gly	Asp	Pro	Asn
			85						90					95	
Lys	Glu	Glu	Met	Asn	Arg	Ile	Gln	Lys	Pro	Asn	Glu	Val	Ser	Ser	Pro
			100					105					110		
Pro	Thr	Thr	Ser	Ala	Val	Ile	Pro	Pro	Ala	Val	Pro	Gln	Ala	Gln	His
			115				120						125		
Leu	Val	Ala	Gln	Pro	Arg	Val	Ala	Thr	Ile	Gln	Gln	Cys	Gln	Ser	Pro
			130				135					140			
Thr	Asn	Tyr	Leu	Gln	Gly	Leu	Asp	Gly	Lys	Pro	Ile	Ile	Ala	Ala	Pro
145					150					155					160
Val	Phe	Thr	Lys	Met	Leu	Gln	Asn	Leu	Ser	Ala	Ser	Glu	Gly	Gln	Leu
				165					170					175	
Val	Val	Phe	Glu	Cys	Arg	Val	Lys	Gly	Ala	Pro	Ser	Pro	Lys	Val	Glu
			180					185					190		
Trp	Tyr	Arg	Glu	Gly	Thr	Leu	Ile	Glu	Asp	Ser	Pro	Asp	Phe	Arg	Ile
			195				200					205			
Leu	Gln	Lys	Lys	Pro	Arg	Ser	Met	Ala	Glu	Pro	Glu	Glu	Ile	Cys	Thr
			210				215				220				
Leu	Val	Ile	Ala	Glu	Val	Phe	Ala	Glu	Asp	Ser	Gly	Cys	Phe	Thr	Cys
225					230					235					240
Thr	Ala	Ser	Asn	Lys	Tyr	Gly	Thr	Val	Ser	Ser	Ile	Ala	Gln	Leu	His
				245					250					255	
Val	Arg	Gly	Asn	Glu	Asp	Leu	Ser	Asn	Asn	Gly	Ser	Leu	His	Ser	Ala
			260					265					270		
Asn	Ser	Thr	Thr	Asn	Leu	Ala	Ala	Ile	Tyr	Pro	Ile	Ala	Pro	Pro	Leu
			275				280					285			
Pro	Pro	Leu	Glu	Pro	Lys	Lys									
			290			295									

<210> 27

<211> 1440

<212> DNA

<213> homo sapiens

<400> 27

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cacatcgtcc	aggcaggaaa	tctgcactca	ctgaccattg	cggaagcctt	tgaagaggac	180
acaggacgct	attcctgctt	tgcttctaac	atctatggga	cagattcgac	ttctgctgag	240
atttatatag	aaggggtttc	ttcttctgac	tcagaaggcg	accctaacaa	ggaagagatg	300
aatcgaatcc	agaagccaaa	tgagggtgtca	tctcctccca	ctacctctgc	agtcattcct	360
ccagcagtac	cccaagccca	gcatttgggtg	gcccaccttc	gtgtggcaac	catccagcag	420
tgtcagagcc	ccaccaatta	cttgcaggga	ttggatggaa	aacctatcat	tgcagctcct	480
gtgtttacaa	agatgctaca	aaatttgtca	gcttctgagg	gtcagctggg	tgtctttgaa	540
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gaagattctc	cagatttttag	gattttacag	aaaaaacctc	gatccatggc	agagccagag	660
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cccaaactcg	aggggggttct	ggtgaaccac	aatgagcccc	ggtccagctc	caggattggg	960
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ggtgtggtga ccaccagaca gaccaggccc gattctttsc aggagaggtt caacggacag 1080
gcaacaaaaa cccagagacc ttctttcccc gtgaaagagc cccctccagt tctggccaaa 1140
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<210> 28
<211> 479
<212> PRT
<213> homo sapiens

<220>
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<222> (1)...(479)
<223> Xaa = Any Amino Acid

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Glu Leu Glu Asn Ser Pro Asp Ile His Ile Val Gln Ala Gly Asn Leu
35          40          45
His Ser Leu Thr Ile Ala Glu Ala Phe Glu Glu Asp Thr Gly Arg Tyr
50          55          60
Ser Cys Phe Ala Ser Asn Ile Tyr Gly Thr Asp Ser Thr Ser Ala Glu
65          70          75          80
Ile Tyr Ile Glu Gly Val Ser Ser Ser Asp Ser Glu Gly Asp Pro Asn
85          90          95
Lys Glu Glu Met Asn Arg Ile Gln Lys Pro Asn Glu Val Ser Ser Pro
100          105          110
Pro Thr Thr Ser Ala Val Ile Pro Pro Ala Val Pro Gln Ala Gln His
115          120          125
Leu Val Ala Gln Pro Arg Val Ala Thr Ile Gln Gln Cys Gln Ser Pro
130          135          140
Thr Asn Tyr Leu Gln Gly Leu Asp Gly Lys Pro Ile Ile Ala Ala Pro
145          150          155          160
Val Phe Thr Lys Met Leu Gln Asn Leu Ser Ala Ser Glu Gly Gln Leu
165          170          175
Val Val Phe Glu Cys Arg Val Lys Gly Ala Pro Ser Pro Lys Val Glu
180          185          190
Trp Tyr Arg Glu Gly Thr Leu Ile Glu Asp Ser Pro Asp Phe Arg Ile
195          200          205
Leu Gln Lys Lys Pro Arg Ser Met Ala Glu Pro Glu Glu Ile Cys Thr
210          215          220
Leu Val Ile Ala Glu Val Phe Ala Glu Asp Ser Gly Cys Phe Thr Cys
225          230          235          240
Thr Ala Ser Asn Lys Tyr Gly Thr Val Ser Ser Ile Ala Gln Leu His
245          250          255
Val Arg Gly Asn Glu Asp Leu Ser Asn Asn Gly Ser Leu His Ser Ala
260          265          270
Asn Ser Thr Thr Asn Leu Ala Ala Ile Glu Pro Gln Pro Ser Pro Pro
275          280          285
His Ser Glu Pro Pro Ser Val Glu Gln Pro Pro Lys Pro Lys Leu Glu

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290		295		300
Gly Val Leu Val Asn His	Asn Glu Pro Arg Ser	Ser Ser Ser Arg Ile Gly		
305	310	315		320
Leu Arg Val His Phe Asn	Leu Pro Glu Asp Asp	Lys Gly Ser Glu Ala		
	325	330		335
Ser Ser Glu Ala Gly Val	Val Thr Thr Arg Gln	Thr Arg Pro Asp Ser		
	340	345		350
Xaa Gln Glu Arg Phe Asn	Gly Gln Ala Thr Lys	Thr Pro Glu Pro Ser		
	355	360		365
Phe Pro Val Lys Glu Pro	Pro Pro Val Leu Ala	Lys Pro Lys Leu Asp		
	370	375		380
Ser Thr Gln Leu Gln Gln	Leu His Asn Gln Val	Leu Leu Glu Gln His		
385	390	395		400
Gln Leu Gln Asn Pro Pro	Pro Ser Ser Pro Lys	Glu Phe Pro Phe Xaa		
	405	410		415
Met Thr Val Leu Asn Ser	Asn Ala Pro Pro Ala	Val Thr Thr Ser Xaa		
	420	425		430
Lys Gln Val Lys Ala Pro	Ser Ser Gln Thr Phe	Ser Leu Ala Arg Pro		
	435	440		445
Lys Tyr Phe Phe Pro Ser	Thr Asn Thr Thr Ala	Ala Thr Val Ala Pro		
	450	455		460
Ser Ser Ser Pro Val Phe	Thr Leu Ser Ser Ile	Pro Pro Gln Thr		
465	470	475		